

1    **WHAT IS CLAIMED IS:**

2           1. An automatic powdered ice machine comprising:  
3           an ice barrel (10) having a cylindrical chamber (11) defined through the  
4   ice barrel (10);

5           at least one refrigerating device (20) mounted at an outer periphery of  
6   the ice barrel (10), the at least one refrigerating device (20) having a  
7   semiconductor refrigerating component (21) with a cold surface abutting the  
8   outer periphery of the ice barrel and a hot surface away from the outer periphery  
9   of the ice barrel;

10          a milling device (30) having a milling pole (35) driven by a motor (31)  
11   and extending into the cylindrical chamber (11), and a helical ridge (351) formed  
12   at an outer periphery of the milling pole (35), wherein the helical ridge (351) has  
13   an outer diameter slightly smaller than an inner diameter of the cylindrical  
14   chamber (11) to define a clearance between the helical (351) and an inner wall of  
15   the cylindrical chamber (11); and

16          a feeding member (40) having a funnel (41) provided above the ice  
17   barrel (10) and beside the milling device (30) and in communication with the ice  
18   barrel (10) by a pipe (42).

19          2. The automatic powdered ice machine as claimed in claim 1, wherein  
20   the milling device (30) has a driving gear (32) mounted on an output axle of the  
21   motor (31), a driven gear (34) formed at a top of the milling pole (35), and a  
22   clutching gear (33) between the driving gear (32) and the driven gear (34).

23          3. The automatic powdered ice machine as claimed in claim 2, wherein  
24   the clutching gear (33) is movable along its axis to engage with/disengage from

1 the driving gear (32) and driven gear (34).

2 4. The automatic powdered ice machine as claimed in claim 1, wherein  
3 the ice barrel (10) has a counterbore (12) defined at a top end of the cylindrical  
4 chamber (11), an ear formed at the outer periphery of the ice barrel (10), and an  
5 inlet (13) defined in the ear and in communication with the counterbore (12) and  
6 the ice barrel (10).

7 5. The automatic powdered ice machine as claimed in claim 1, wherein  
8 the feeding member (40) further has a control valve (43) provided between the  
9 funnel (41) and the pipe (43).

10 6. The automatic powdered ice machine as claimed in claim 5, wherein  
11 the control valve (43) has a passage (431) communicated with the funnel (41)  
12 and the pipe (43), and a knob (432) for adjusting a flux through the passage (431)  
13 into the pipe (42) from the funnel (41).

14 7. The automatic powdered ice machine as claimed in claim 1, wherein  
15 the refrigerating device (20) further has a heat sink (22) mounted at the hot  
16 surface of the semiconductor refrigerating component (21), and a fan mounted  
17 on the heat sink (22).

18 8. The automatic powdered ice machine as claimed in claim 1, wherein  
19 the ice barrel (10) is covered with a layer of heat insulating material (14) at the  
20 outer periphery of the ice barrel.